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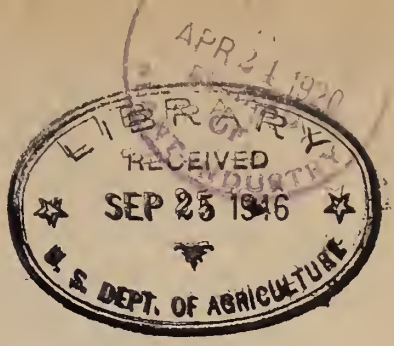

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

APR 10 1920

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REPORT FOR WEEK ENDING APRIL 10, 1920.
(Except where otherwise indicated.)

Akron:

The first part of the week was very unfavorable for field work. A snow of 4½ inches on Saturday of last week did not melt until Tuesday and left the soil too wet to work until Thursday. Thursday the oats, barley, and peas were sown on the rotations. A light rain Thursday night made the soil too wet to work Friday.

A part of the fencing for the second rotation to be pastured with sheep was put up during the week. Only two laborers are employed on the Station at present.

Very little field work was done in this vicinity during March. There was very little snow during the month, but the month was cold with frequent high winds. Some wheat fields suffered severely from blowing, especially where the soil was light. Some fields on the hard land that had been worked down smooth before seeding blew out and the soil was carried over into adjoining fields that had been better prepared where it covered the wheat deep enough to kill it out.

Maximum temperature for the week 66, minimum 3 below, precipitation 0.50 in.
Minimum temperature was on the morning of the 4th.

Amarillo:

This spring has been rather dry and windy up to date: The precipitation has been as follows:

Jany.	.57
Feby.	.08
Mar.	.43
Apr.	.09 to date.

Most of the precipitation in January came in the form of snow, which drifted very badly, leaving the ground bare in some places and drifts two to three feet or more in others, so that it did not do much good except where there was something on the ground to catch and hold it. However, there was a good supply of moisture last fall and the winter wheat and rye, although planted late, came through the winter with a good stand in most all cases.

Spring wheat and oats were planted early in March and came up with a good stand. The minimum temperature was 13 on the 4th and 17 on the 5th of this month, and the oats were frozen back to the surface, but at present seem to be coming out again and doing well.

On March 27th we had a wind which averaged 27.5 miles per hour on the 4 foot anemometer from 8 A.M. to 5 P.M., and reached a velocity of about 60 miles per hour at the Weather Bureau in town. This blew a brick wall over which had been left standing after a fire, and wrecked a furniture store next door, injuring one person quite seriously.

Most of the spring plowing for row crops on the Station has been completed. We have had very little trouble with soil blowing this spring, except on one piece which has been fallow since last July.

Precipitation Jany. 1, to date 1.15 in.
Maximum temperature for the week 77; minimum 13; average hourly wind velocity 10.4 miles per hour; evaporation (4' tank) 1.721 (6' tank) 1.340; precipitation .09.

Ardmore:

The season is unusually late and field work has been greatly retarded because of frequent storms. The first work on the station was done in the fields about March 15th, but very little has been accomplished up to the present time. Some seeding of small grain was done today (April 10). The average date of seeding small grain during the past seasons has been April 5th.

During the past three weeks the teams of the Station have been kept busy hauling manure. About two hundred loads have been distributed on the fields.

Winter wheat is starting to grow and has come through the winter in excellent condition.

The cattle losses in this section during the winter were very heavy. The winter has been long and unusually severe. There has also been a great shortage of feed. Scabies among the cattle is causing some losses and it is likely that the entire county will have to be quarantined before the disease is eradicated. A good many range herds also have Hemmorhagic Septicimia. The Superintendent of the Station has done considerable work in diagnosing this disease and assisting in its control.

Maximum temperature for the week 68, minimum 3; precipitation .15.

Belle Fourche: Report for week ending April 3d.

Field work on the dry land rotation was commenced on March 30. During the week ending April 3d, all the plowing, disking, and harrowing on land to be seeded to small grains was completed. Cold weather and snow stopped field work on April 3d.

Soil blowing was a greater factor in injuring winter grains than it has been in any other winter. All winter wheat is killed to the ground, but the roots still seem to be alive. Soil blowing was as prevalent on irrigated land as on dry land.

Losses of stock in this section were high during the winter. No extremely cold weather occurred, but the weather has been very changeable and the ground has been covered with snow so long that a shortage of feed has become prevalent.

Maximum temperature for week 65, minimum 12; precipitation .03 in.

Precipitation to date:

Jany.	.65
Feby.	.16
Mar.	1.35
Total	2.16

Big Spring:

Climatic conditions for this section have been quite varied since January 1st. The precipitation for January amounted to 1.97 in., which is greatly in excess of the average for this month. In fact, the record shows that not as much as an inch of precipitation was ever recorded for this month, covering a period of twenty years. The month of February was dry compared to that of January, there being but .20 of an inch for the month. There was considerable wind movement in February and March, which did considerable damage to property in this section. We had several bad sandstorms during March and some soil-blowing occurred on the Station, but no damage was done to the winter wheat plats, the drifting being confined to a small area.

Big Spring, continued.

The precipitation for March was .10 of an in., which is considerably below the average for this month, and that received for the same period last year. No precipitation has occurred so far in April and the soil is getting too dry to plow. We have practically all the spring plowing done with the exception of Plat A, in the c.c. series. There is also some spring listing to do, but this will be deferred until conditions are more favorable. There is a good season of moisture in the subsoil and while prospects are rather discouraging right now, we consider that it will not take such a heavy rainfall to raise a crop this season.

Maximum temperature for the week 86, minimum 22; evaporation 1.77 in.; wind velocity 7.1 miles.

The fruit crop on the station and in the county was killed by the heavy freeze that occurred on the morning of April 4th. The temperature on this date dropped to 22 above. The locust, mulberry, and many of the other trees were badly nipped by this freeze. Winter wheat is looking well, but will soon need some moisture as the growth is very rank, being six to ten inches high on some of the plats. Grass in the pastures and on the ranges is good and cattle have wintered better than any previous winter for several years. No feeding of any consequence had to be done the past winter to bring the stock through.

Dalhart:

This spring has been unusually windy and dry. We have had no rains since last fall and very little snow fell during the winter. Our worst winds came from the west and southwest, although we had some hard ones from the north. As a usual thing we have windy days with a few nice days mixed in, but this spring every day was a windy day. Our station has done very well in spite of the winds. Most of the station was cultivated once and a very little had to be cultivated twice. On the whole we have not had to do as much cultivating to hold it as we did last year, although the winds were harder.

On account of so much wind and no rain everything is getting pretty dry. The winter rye does not seem to be affected in spite of the weather. It is about five inches high and jointing. It has a good healthy color and makes a very good showing from the road. The oats came up but have not done much on account of the rabbits and wind. The alfalfa and sweet clover are making good headway. The clover is several inches high at this time.

Work for the past week has consisted of prunning trees, planting windbreaks, watering trees, and ornamentals, and some listing in the listing methods. Outside of this listing no field work has been done except a little cultivating to prevent blowing.

A good many of the trees in the orchard came out in bloom during the warm windy weather of March and got frozen back. There will not be much fruit unless some comes on a little later.

Dickinson:

Field work was started on the 9th but was discontinued on the 10th due to a snowstorm. Snow still covers about half of the land, but if fair weather continues work can be resumed early in the week. Except where the snow has drifted during the winter, the soil is very dry below a few inches on the surface, so that crop growth will depend entirely on the seasonal rainfall.

Dickinson, continued.

The past winter has been very severe on livestock due to the long winter and the lack of feed. In the blizzard of March 15-16th many head of cattle and horses were lost. Farmers have had to buy practically all of the feed necessary to carry their stock through the winter and for the spring work. All work stock has come through in very poor condition. Hay and grain are not only very high in price, but are difficult to obtain. Only a poor quality of hay can now be secured by local dealers. The best of this has been selling at $28, but is now due to advance as the reduced freight rate on feed was discontinued April 1st.

Seed grains, especially oats and barley, are hard to obtain. In many cases farmers have not sufficient credit left to secure seed for planting, and even though the county is giving some aid, there will be some land left unseeded. The acreage of corn and forage crops will be greatly increased this year.

Maximum temperature for the week, 53; minimum, 1 above. Precipitation .10 in. Precipitation for the months of January, February, and March amounted to 1.02 in., while the average for these months is 1.70 in. The total precipitation for 1919 was 8.35 in., compared with a 28-yr. average of 15.12 in.

Edgeley:

The week has been extremely cold for this time of the year. The ground has remained frozen most of the time, so that preparation of the soil for seeding was impossible. No preparatory work for seeding has yet been done at this Station this spring, owing to the frozen condition of the soil. Spring work will be delayed until the weather warms up. The soil appears very dry and will need moisture for rapid germination of the grain.

Some grain has been sown by farmers in this district, but seeding has not become general.

Maximum temperature for the week 48; minimum 2.

Garden City:

The weather this week has been very favorable for field work; the small grain plats were prepared, and the oats and barley were seeded.

We have had an unusual number of high winds this spring which have caused considerable damage due to soil blowing. Many of the fields of winter wheat in this vicinity have blown out entirely. Our winter wheat plats came through the winter in good shape, but two late freezes and the hard winds of late have just about ruined some of them.

There has been no rainfall and but one little snow storm since last December, so the soil is so dry that it blows very easily.

Maximum temperature for the week 73; minimum 17; wind velocity 8 ft. anemometer, 31 miles per hour; 2 ft. anemometer, 22.8 miles per hour.

Havre: Report for week ending April 3d.

The winter in this section of Montana has been a long one, but not especially severe. The first snow with low temperatures came October 23d. During the winter there have been several mild periods accompanied by chinook winds. The snow on these occasions melted rapidly with the result that the lakes and reservoirs are well filled with water. The creeks that were dry last season are all running.

The reserve moisture in the soil in fields is generally low. During the winter the snow drifted more than usual. With this condition there is not very much moisture in the smooth fields, while in the more favored locations in which the snow was held either by thistles or other protection there is approximately a foot of moist soil. Aside from rotation 570 which has fallow for three years there is practically no soil on the station that has sufficient moisture to in any way insure a crop, or to tide over any extended dry period. Heavy precipitation during April will materially increase the acreage planted this season.

There has been a large percentage of the small acreage of winter grain that has been killed. This has been due to the dry condition of the soil last fall. Late seeding seems at present to have an advantage.

Precipitation since January 1st has been about normal. February was mild as to temperatures. The latter part of March and April, to date, have been colder than usual. The evaporation tank filled March 30th has been continually frozen with no opportunity to take a reading. Snow has all gone except in the drifts, but we will probably not be in the field for at least a week yet.

Hays:

High winds during the latter part of March caused considerable soil movement in this part of the state. In some localities small tracts of winter wheat was blown out. Most of the damage reported was where the wheat had been sown on fall plowing and where it was seeded on stubble land, the stubble having been burned off. Usually the seeding had been late and there was not sufficient growth to offer much protection to the soil. In some cases the damage was a result of drifting soil drom adjoining fields.

The Dry Land Project suffered some damage by soil drifting in from adjoining fields on the west and south. To protect the winter wheat from further damage it was necessary during the first week in April to work all unseeded plats, roads and borders. All plats to be spring-plowed were immediately plowed, and all other plats were cultivated. Roads and borders were either cultivated or listed. Some listing was done in the adjoining field on which the blowing commenced, and where there was danger of more trouble.

Winter wheat on the project came through the winter in good condition, although the growth is not so heavy as it was this time last year.

Except for the soil blowing which had taken place in March, the soil is in excellent condition for spring work, and seeding. All spring small grains and grasses were seeded April 6th and 7th.

The Annual Round-Up is being held today at the Ft. Hays Experiment Station. It is one of the most windy days of the season. The air has been filled with dirt all day, which has cut down the expected attendance of 3,000 to 1,100.

Mr. H. L. Kent, the new superintendent, recently appointed for the Ft. Hays Experiment Station, was present at the Round-Up, and appeared on the program for a short talk. He will take up the duties of Superintendent about May 15. Mr. Weeks, the retiring superintendent, takes up his new duties as secretary of the State Farm Bureau, with offices at Manhattan, May 1st.

Hettinger:

Started work in the field March 27th. The land is very dry and Loose. It is very cold and windy and the ground is drying out rapidly.

Hettinger, continued.

The fall plowing plats are very rough and lumpy due to the dry condition of the soil when plowed last fall. It is impossible to work the lumps down with a disk or roller. It is hoped that we will get a rain before seeding time.

We have all the plats ready for seeding with the exception of the fall plowing on the D.L.A. rotations.

Temperatures for week, maximum 55; minimum 5; precipitation .20 in.

Huntley: Report for week ending April 3d.

The past winter has been one of unusual length and severity. Since October 20th the ground has been frozen and covered with snow most of the time. The precipitation October 1st to March 31st, inclusive, has amounted to 8.89 in., practically all in the form of snow. The normal for this period is about 5 in.

Temperatures have been generally below normal. From the period October 1st to March 31, inclusive, 41 days, had a minimum temperature below zero. Ten days had minimums of 20 or below, and 8 days had minimums of 30 or below, the lowest being 41 December 8th. This is the coldest ever recorded at this station. The first half of February was mild, most of the snow disappearing and in many places the frost left the ground. The latter part of the month was colder with more snowfall. Early March was cold, having a minimum temperature of 37 on the 5th. Since then the weather has slowly warmed up, the snow melting rapidly until it was entirely gone March 25th. On the 30th of the month more snow fell, and this has been repeated nearly every night since then, though most of it melts during the day.

In spite of the heavy precipitation, it is doubtful if much of the moisture has entered the soil. The early freezing up in the fall and the rather rapid melting of the snow before the ground thawed out entirely were conditions more conducive to runoff than absorption of the moisture.

No field work has as yet been done.

Temperatures for the week, maximum 66, minimum 11; precipitation .2in.

Huntley:

The early part of the week was cold with some precipitation in the form of snow. Higher temperatures with considerable wind have dried up the ground to some extent, though it is still too wet for field work. Winter wheat on the rotations is making little growth, as yet. The stands appear to be rather thin and the crop as a whole rather backward.

Mr. J. W. McLane returned from Washington on the 9th and is getting the Water Requirement work lined up for the season.

Mr. C. E. Brodie has returned to the station as clerk.

Temperatures for the week, maximum 63, minimum 16; precipitation .25 in.

Lawton:

Excessive rains during the fall, followed by stormy periods and freezing temperatures during the winter delayed fall plowing until January and February.

The wind has blown steadily since the latter part of February. At times the velocity has been high and the sky is frequently filled with blowing soil. More soil-blowing has occurred on the station that in any previous year. However, the damage from blowing soil has been light on the station, and would hardly be considered in the sandy sections.

Lawton, continued.

Freezing temperatures late in the season have done more damage than anything else. Minimum temperatures of 27 and 25 were recorded on the 4th and 5th. of April, and all hopes of a fruit and berry crop were blasted. Garden and truck crops also suffered severely from the freeze. Foliage on all trees and ornamental shrubs which were well leafed out was entirely destroyed. Oats, alfalfa, and sweet clover showed the effects of the freeze but suffered no permanent damage.

The wheat acreage in southwestern Oklahoma is very small this year. This condition is due to the inability of the farmers to seed during the continued wet weather last fall. Wheat made unusually little growth during the winter and has been slow to stool and grow this spring. At the present time wheat is about one third as large as it was last year.

The acreage of oats throughout the country is little above normal. Cold weather and wet ground made seeding later than usual and the growth has been slow.

Considerable corn has been and is still being planted. Cold weather has retarded germination and good stands are yet pretty doubtful.

Although the subsoil is well filled with moisture, good seed-beds have been rather difficult to prepare this spring. High winds have dried the surface soil so rapidly that it was necessary to follow the plow with a disk. At present, an excellent seed bed obtains on nearly all of the station land. This condition is due to rapid tillage behind the plow and harrowing as soon as possible after one or two time rains.

Oats were seeded February 14th, alfalfa, and sweet clover March 13th, and corn on March 30th. One plat of sweet clover and one plat of alfalfa will have to be reseeded on account of high winds and low temperatures.

Monthly precipitation since the first of January is as follows:

Jany.	1.04
Feby.	0.61
Mar.	1.54

The total deficiency for the three months as compared with the normal is only 0.74 in.

Spring plowing for cotton, cowpeas, and the grain sorghums is being done at the present time.

Mandan:

Horticulture.

The work in Horticulture was somewhat interrupted by the very unexpected departure of Mr. Baird for Okland, California.

Agronomy.

On account of the prevailing cold weather no work has been done in the field. Work will probably start on the 12th.

Maximum temperature 53 on the 8th; minimum 0, on the third; precipitation .04 in.

Haying was started on April 8. One thousand pounds of "Winter" grass being cut and sacked for shipment to the North Dakota Agricultural Experiment Station to be used in some comparative feeding tests.

Mr. Arthur C. Dillman, in charge of Forage Crop Investigations at Mandan, arrived from Washington the first of the week.

Mandan, continued.

Arboriculture.

This week has been spent in getting ready for the annual shipment of trees to the farmers cooperating in shelterbelt demonstration. Mulch has been removed from heeled-in trees; the fumigating house is being completed; the shipping room made ready; and the routine office work in connection with shipping attended to. The past ten days of cold weather has somewhat delayed the shipping, but it will probably be finished by the usual time.

North Platte:

The spring to date has been dry with a great deal of high wind. The precipitation deficit since January 1 is .59 in, or about 30 per cent.

Winter wheat land is very hard and the crop is making very little growth.

Spring grain seeding was completed during the week. There was sufficient moisture so that a good seed bed was secured on all plats.

Scottsbluff:

During the latter part of March, and so far in April, we have had terrific wind storms. Damage from soil blowing has been greater than any of the past three years. Winter wheat plats were damaged considerably, and it will be necessary to reseed portions of them.

Practically all plats on the project were spring-tooth harrowed in an attempt to stop the soil movement. This method proved very effective.

Spring work has not progressed very rapidly, as yet. Very inclement weather has prevailed most of the week. Spring plowing for small grain was completed and some discing was done, such as could be done between snow storms; either snow or rain occurring on five of the seven days. All records for low temperature in April were broken when the theremometer registered 2 degrees below zero. Some localities, however, report much lower temperatures.

The labor situation in this section is apparently no better than last year. Farmers all over the project are short of help and are compelled to pay very high wages.

Maximum temperature for the week 66, minimum 2; precipitation .52 in.

Sheridan:

The first field work of the season here was done March 30. Block A in Field D, which is quite sloping had dried off more than the rest of the Station which was prepared for seeding of wheat and oats. Stormy, freezing weather prevented field work again until April 8th. The block prepared for seeding was then seeded about 1/3 to Pelissier wheat for increase and 2/3 to Sixty Day oats for feed.

The ground for the rates and dates of seeding with barley, oats, and wheat was prepared for seeding on the 8th, and the rates and the first date of seeding seeded yesterday. Ground for the variety trials was prepared for seeding yesterday and this morning, and work was begun on the breaking to be added to the rotation field. This piece discs up in good shape now. Further work for the present has been stopped by more snow. With good weather for another day or so, the rotation field would be in condition for work.

Sheridan, continued.

All of the winter grain seems to have come through the winter in good shape. Winter wheat seeded late in the fall is just emerging, and it is impossible now to determine how good a stand there will be of that seeding.

Grass is just now beginning to make a start. The brome on the plats, although thin, is starting ahead of the native grass.

Tucumcari:

This spring has been as unfavorable as last spring was favorable. Unusually high winds have prevailed with no rainfall. We had very little snow during the winter. We started into the winter with a good supply of moisture which has been in our favor. We have had a constant fight to keep the station from blowing since early in February. The south field (east half) was bare which was to our disadvantage. We were able to hold it for a long time by cultivating, but the continued hard winds dried the field out to such an extent that cultivating no longer held. We listed the field north and south about the middle of March and most of that has held in good shape, although a few rows on the east side gave away and had to be done over. The west field held good until about the middle of March then it broke loose all at once. It has been listed now, (north and south) so that there is no more danger from it for awhile at least. The sod field has had its share in the blow, although it has not been as bad as the other fields. It can still be held by cultivating. If the winds continue we will have to resort to listing but I believe this will not be necessary.

The small grains have a slim chance for recovery. They did not get much growth last fall and were too small to protect themselves during the wind - storms. The have not blown out completely but the wind keeps whipping them until they are looking pretty tough. All these plats have had to be cultivated or they would have been gone long ago. They have a fighting chance for recovery. If we get some rain before long it will help wonderfully. The soil is so dry that they cannot get a start.

All the field work that has been done consists of cultivating and listing to prevent blowing, or to keep it down to a minimum. Work this week has consisted of re-listing some of the south field, cultivating the sod field and listing the orchard. A row of poplars was planted along the west side of the building site west of the Superintendent's cottage to break the force of the wind. The ornamental trees and shrubery have been watered. A good many of the shrubs and trees are leafing out; some are in bloom.

The cattle feeding experiment is coming along nicely. The fed cattle of Lot 1 have made a steady gain all during the winter, while the range cattle of Lot 2 have lost some.

Woodward:

Thus far this region has had less than the average precipitation for this same period. Winds have been high and much blowing has resulted. Here on the station an excessive amount of cultivation has been necessary in order to hold the soil. All soil, where at all possible, has been listed.

Peaches came out into bloom from the 24th to the 30th of March. Heavy freezes of April 4th and 5th practically destroyed the crop. On the night of the 4th the temperature went down to 22 degrees. Cherries now are in bloom. Other fruit and ornamental trees have just begun to make spring growth.

Woodward, continued.

Wheat where not buffeted too badly by the wind looks vigorous and seems to give fair promises for a crop. No estimate has been made as to the amount of wheat blown out in the county, but the acreage must be high as the past spring has been very bad for all sandy soils.

Minimum temperature for the week 22, on the 4th; maximum 83, on the 1st; precipitation since the 1st of April .10 in.

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BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

APR 17 1920

REPORT FOR WEEK ENDING APRIL 17, 1920.
(Except as otherwise indicated).

Akron:

The past week has been even more unfavorable for field work than the precedeing week. A light rain on Saturday night was followed by a snow fall of about 4 in. on Sunday. A heavy wind Sunday a.m. caused a real blizzard for 8 or 10 hours, and caused the snow to drift badly. Roads were impassable for cars on Monday, but the snow melted so rapidly that cars could get through Tuesday.

No field work was done during the week. Posts were set and the wire for the sheep experiment was stretched. The earliest seeding of spring wheat is coming up.

Maximum temperature for the week 66, minimum 13; precipitation 0.75 in.

Amarillo:

From 8 a.m., April 10 to 8 a.m., April 12, the wind blew 934 miles, or an average of 19.5 miles per hour for 48 hours, as registered on the 2 foot anemometer. During this time we had .23 in. precipitation in the form of hail, and a minimum temperature of 25 degrees; consequently the oats do not look very promising at present. They are recovering to some extent, but the stand has been considerably reduced and they do not look as promising as they did about 3 weeks ago. The spring wheat was injured to some extent and a few plats of the winter wheat are pretty badly wind-whipped.

On the 14 a demonstration of the Cletrac Tractor was held on the Station. They did some plowing with both disk and moldboard plows, and, also did some threshing.

Maximum temperature for the week 81, minimum 25; average hourly wind velocity 12.7 miles per hour; evaporation (6' tank) 2.120, (4' tank) 2.624; precipitation .23 in.

Belle Fourche: Report for week ending April 10.

The weather for the past week has been stormy, and exceptionally cold for this season of the year. On 5 successive nights the temperature reached 13 degrees, or lower.

Field work, other than plowing, was possible on only 2 days of the week. On these 2 days the field work preparatory to seeding was completed, and the plats were staked. Seeding can now be started as soon as weather conditions permit.

Plowing for corn, potatoes, and sorghum has been finished. Spring-plowed land is in excellent condition for planting.

Maximum temperature for the week 64, minimum 12; precipitation .38 in.

Big Spring:

The weather at this point remains dry, with the result that farm operations are at a standstill in the county. On account of the dry condition of the top-soil, no planting of spring crops is being done at the station. A good rain is needed to furnish a planting season and enable us to work down the station soil and put it in shape for planting. Winter wheat in the experimental plats is shooting up rapidly, being 8 to 12 in. high on several of the plats. Unless more moisture falls soon the wheat crop on the station promises to be light this season.

Maximum temperature for the week 89, minimum 28; wind velocity 8.0 miles per hour; evaporation 2.44 in; precipitation 0.

Dalhart:

Since last report we have had some real winds. The wind lasted for about 30 hours, a steady hard wind full of twists. Many windmill towers were blown down on the range, and one oil derrick. Our wind mill tower came very near going over, but we put some guy ropes on it and saved it. We have set the two loosened posts in concrete now so that it will have a better hold on the ground. The station held O.K. for about 22 hours of the blow, but it gave way in several places after that. We did not blame it for blowing either. The windbreak (Forest planting) gave way and started the worst place. Most of the station cultivating held throughout the whole blow, but we had to cultivate everything over. Sunday was the day that did the damage for us.

Work this week has been mostly in the field cultivating and listing. We watered some of the plantings again to keep them alive. Everything is getting so dry here that it is liable to blow away if this wind keeps up much longer. Prospects are certainly not promising as yet this year.

We did not lose any of our small grain in the blow, unless it is the oats. It has been so dry that they could not get a good start and they may not come out after this. The rye is looking fine and growing rapidly. It will soon be up where the wind will whip it to pieces.

Dickinson:

Cold, cloudy weather has obtained most of the week without much precipitation. A snow of about 2 in. which fell on the night of the 14 melted very slowly and prevented cultivation for a couple of days. The soil is now in excellent condition for cultivation, except that in plowing sod an occasional dry spot is still found.

Alfalfa, red clover, peas and rye were seeded in the rotations on the 12. Increase blocks of oats and wheat were seeded on the 13 and wheat in the rotations on the 17. The ground is prepared for seeding oats and barley in the rotations.

Mr. J. M. Stephens visited the Station on the 17, and Stewart Lockwood, Extension Entomologist of North Dakota, on the 13.

Maximum temperature 56 degrees, minimum 20 degrees; precipitation .28 in.

Edgeley:

The past week has been cold and cloudy with no precipitation. The ground did not thaw out sufficiently until Thursday to permit of spring plowing. All small grain plots on Nine has been plowed, disked, and harrowed ready for seeding the first of next week. All small grain plots on Main Field has been plowed, and disking and harrowing will be done the first of the week. The soil is becoming very dry, but works up nicely.

The farmers in this district are well along with wheat seeding on fall plowed land. There is considerable spring plowing to be done by the farmers for spring grains. Labor was so scarce last fall and wages asked were so high that farmers could not afford to pay the price, hence the large acreage to prepare for crop this spring.

Maximum temperature 54, minimum 11.

Garden City:

The weather during most of the past week has been very favorable for field work. Although we had a blizzard on April 11, the rest of the week has been quite fair.

Most of the week was spent in seeding the spring wheat plots and in finishing up the spring plowing: Soil samples were taken on the M.C. spring wheat plots. We need a rain very badly to start the spring sown grains, as the soil is getting very dry.

Garden City, continued:

Maximum temperature for the week 79 degrees, minimum 22 degrees; average wind velocity, 8 foot anemometer 16.5 miles per hour; 2 foot anemometer 9.3 miles per hour.

Havre:

The past week has been cool with sufficient snow and rain to prevent field work. The maximum temperature has been 60 degrees and the minimum 29 degrees. There has been .37 in. precipitation with traces on three other days.

There has been no field work as yet although there has been 2 days on which plowing could have been done on land where there were no thistles during the winter. The thistles have so held the snow that the surface is well saturated at present. There has been some plowing in the locality and a little sod broken. Some have drilled wheat in stubble without any preparation.

The weather conditions have been excellent for the winter wheat that was in such a weak condition a few days ago. Some of this that was seeded in October and which has a short root, but very little apparent sprout, is showing signs of growing. With the surface moist it may get through and get started. Late sown wheat is coming nicely and will be a good stand with the exception of the most exposed locations. Late seeded winter rye is coming nicely: That seeded in September on land that was cropped last season and plowed early is all dead; while that seeded on land that was plowed later and where the seed bed was dry last fall is good.

Mr. J. M. Stephens spent a part of Sunday and Monday at the Station. Mr. J. C. Taylor, acting Leader of County Agents, for the State was also here on the 11.

Hays:

During the week the spring plowing for row crops was completed. A series of plats were laid out in alfalfa sod field for the purpose of securing information regarding the value of barn yard manure and commercial fertilizers on alfalfa. Trimming of winter wheat plats on the old project has been completed. The plats laid out in the general field for additional seed-bed preparation and drill test are not yet trimmed. This will be taken care of next week.

Spring wheat, oats, and barley seed April 6 and 7 are beginning to emerge. Winter wheat, which was slightly damaged on the project by winds is making fair recovery.

County Agents from 18 counties in the western part of the State held a convention at the Experiment Station Monday and Tuesday for the purpose of studying the results of the experimental work at the Station.

Maximum temperature 80, minimum 24; precipitation .24 in.

Huntley:

The past week has been generally cloudy, with frequent showers.

An attempt at spring plowing early in the week was interrupted by rain and the ground has been too wet since then to resume field work.

The warmer weather has been favorable for the growth of winter wheat, the stands on all plats becoming more uniform.

Today another snow storm is in progress.

Mr. J. M. Stephens spent the day at the Station, April 16.

Maximum temperature 68, minimum 27; precipitation .13 in.

Judith Basin:

This has been another stormy wet week, with temperatures somewhat above those reported for the previous week. A snow of .83 in. precipitation occurred on the 14 and was followed on the evening of the 15 by a heavy rain which turned into snow later in the night. It has been snowing continuously ever since, and very little drifting has taken place. On the morning of the 16 the snow was 12 in. deep and a precipitation of 1.9 in. was recorded. An additional .28 in. has subsequently been received, making a total of 2.18 in. which has fallen in the last 38 hours. This is the largest amount of precipitation received in a single storm at this station since 1908.

The total precipitation for April thus far is 4.04 in., which is over an inch more than any entire month of April on record.

A number of plats of winter wheat on the station are apparently in a rather critical condition, but the commercial field of wheat and wheat on all farms in the vicinity has evidently survived the winter in good shape.

Maximum temperature for the week 55, minimum temperature 26; precipitation 2.43 in.

Lawton:

Wind velocity has been rather high the past week, averaging 11 miles per hour. A bad sand storm occurred the 11 and wind movement for the period ending Monday morning averaged 24.1 miles per hour. No blowing took place on the station, although the air was full of dust in every direction.

The night of the 10, .37 in. rainfall was recorded. Evaporation for the week averaged .260 in. daily.

Corn which was plated March 30 came up the 14, and has made excellent growth; temperatures of 84 and 85 being recorded the past two days. The minimum temperatue for the week was 36, occurring the night of the 12. Average maximum for the week 72, minimum 46.5.

Thursday the planting of the 4/15 date test grain sorghums, forage sorghums, cowpeas, and cotton was done, the seed-bed being in excellent condition. Plenty of moisture was found just below the shallow dust mulch which covers the soil.

Messrs. Schultz and Diehl visited the Station Friday. The former is located at Oklahoma City and is in charge of the Federal Crop Reporting Service of Oklahoma, while the latter has offices at Stillwater and is supervisor of the southwestern Oklahoma county agents. Mr. Schultz extimates that the wheat acreage of southwestern Oklahoma is only about 44% of last year's, while the total acreage for the state is about 1,000,000 acres below that of 1919. Government reports for April indicate a probable yield of winter wheat of 484,000,000 bushels, as compared with 731,000,000 last year, and a 5 year average of about 560,000,000 bushels.

Wheat in this section has improved markedly the past week, and is of good color, but is very short and late. Seeding last fall was delayed by continual rains and very little fall growth was made; so the present condition of the crop is only about 72%.

Mandan:

Horticulture.

Owing to the continued cold weather, no field work has been done, but ground has been plowed and disked preparatory to planting out fruit grafts and stratified seed.

Shipment was made of seed potatoes to Sheridan, Wyoming, and to Moccasin, Montana.

Mandan, continued:

Agronomy.

Field work started on the 12. All spring plowing for small grain has been completed, as well as all disking and harrowing. Seeding will be done early next week, if weather permits.

The soil is rather dry and some blowing has taken place on plats that were fallow last year, but not to a serious extent. There is some frost still in the ground, especially in the South Field. The soil wet down to about 18 in. during the winter in the corn plats.

The total precipitation from January 1 to March 31, was 1.93 in., which is the 45 year average for the same period.

Maximum 60, on the 14; minimum 21, on the 12; precipitation T, which came in the form of snow.

Arboriculture.

Preparations have been completed for shipping stock to cooperating farmers, which has been delayed on account of the cold weather.

Disking has been done in the field E, I, J, and O, preparatory to planting of tree seed. The ground still remains frozen in places among the trees that are to be dug for shipping this spring, but will doubtless be out next week.

Mr. H. Y. Gouldman, of the Federal Horticultural Board, arrived Thursday from Washington for the annual inspection of the nursery stock before shipping.

North Platte:

The dry soil reported last week was broken by a severe storm during the 10 and 11. Beginning with rain, 1.78 in. was recorded before the precipitation turned to snow and clogged the gauges. The hail guage, when thawed out, recorded 2.35 inches of precipitation. The snow drifted badly, and was of little benefit to crops. The soil is badly beaten down. Grain seeded the last of March shows as yet no signs of emerging.

Sheridan:

The most of the week has been favorable for field work, fair weather prevailing until yesterday, Friday. Yesterday was cold and cloudy with light rain at frequent intervals. Early in the evening snow began to fall and it has been snowing heavily since. Further field work will probably be impossible for several days.

The ground broken up last year to be added to the rotations was disked three times and harrowed the first of the week, putting it in fair condition for crops. The spring-plowing in the rotation field for wheat, oats, and barley has been completed, and the fall plowed, summer tilled, and green manured plats, and corn plats to be disked up for small grins, have been double disked. The surface of the summer tilled and green manured plats was generally packed quite hard, more so than is usual here from going through the winter, it is claimed. Under the surface, all of the rotation field has been quite wet, and the work on this field has been heavy and slow.

The varieties of wheat and oats were seeded the first of the week. The second date of seeding of wheat, oats, and barley was seeded the 15.

Grass was just getting a good start before the present snow came. Feed is very scarce, and the present storm will probably result in the loss of great numbers of cattle.

Woodward:

A shower of .33 in. occurred on the 11. Since then weeds have started growth. Wheat looks much better, but still stand more moisture still. It now appears that some of the cherries escaped the heavy freeze which killed the peaches and that there may be a partial crop. Grapes are just beginning to start growth, and it is yet too early to determine whether they have been damaged to any great extent.

Work has consisted largely in grading and smoothing up the station road to town which has been so badly wind swept the past few months. Some listing also has been done. On Saturday it became necessary to do some cultivating on the rotations to prevent blowing.

First late planting of the sorghums on the Cereal Project, April 15.

Maximum for the week 78, on the 15; minimum 34, on the 12; precipitation .33 in.

Tucumcari:

We have had one continuous round of hard winds this week, and it has kept us busy trying to keep the station from blowing. It is so dry here that cultivating is not doing much good. The south field is giving us all our trouble. It is mostly bare and the listing is getting to a point where it does not do us much good. We have kept working it trying to keep it from blowing, but the hardest winds take it away from us.

Field work has been continued all week in effort to hold the station. It seems that the wind cannot stop blowing until we get a rain and that part of it seems to be out of the question.

The threes and shrubs are leafing out and the grass is getting green. Nothing is making much headway, but the wind.

Belle Fourche:

Field work was possible on only two days, during the week. On these days, April 13 and 14, the seeding of oats, wheat, barley, peas, flax, alfalfa, clover and sweet clover, on the dry land rotations was completed.

The precipitation for the week was 1.40 in. About half of this was in the form of snow. At the present time there are several inches of snow on the ground. Nearer the Black Hills the snowfall was much greater and no trains were able to get through to Newell for 2 days.

The continued cold weather, combined with a shortage of feed has resulted in a very heavy spring loss of live stock.

Very little spring grain has been planted in this section. Practically no fall plowing was done last fall and weather conditions have permitted little spring work being done up to the present time.

Maximum temperature 64, minimum 21.

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OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

APR 24 1920

REPORT FOR WEEK ENDING APRIL 24, 1920.
(Except as otherwise indicated.).

Akron:

The past week has been more unfavorable for field work than the precedeing. Nothing has been done except a few odd jobs and the chores. Some rain fell on the morning of the 17 and in the afternoon it began snowing. Snow fell steadily from Saturday until Monday morning. Monday was cloudy with snow flurries all day. The snow was damp and did not drift badly, so that the prairie was well covered except on north slopes. There was not much loss of stock in this vicinity, although a few thin range horses died. Cattle are thin, but farmers are buying feed and should be able to carry them through if we have seasonable weather soon.

Maximum temperature for the week 47, minimum 21; precipitation 1.28 in.

Ardmore: Report for week ending April 17.

The first five days of the week were favorable for conducting farming operations. Good progress was made with the field work on this station. All plats of wheat, oats, and barley were seeded, and the seeding of field oats was completed with the exception of about ten acres. About 100 acres have been seeded to oats.

A very severe storm struck this section about four o'clock on the afternoon of the 16. The wind blew unusually hard from the east and snow fell continuously for seventy-two hours. The rain gauge caught a total of twenty-four inches of snow, but this probably is not an accurate measurement due to the high wind velocity. Snow drifts were fifteen feet deep in many places. Roads were absolutely impassable within twelve hours after the storm started. Trains did not run on the main line for a period of three days.

The total precipitation recorded during the storm was 2.57 inches. It is certain that this figure represents somewhat less than the actual amount of melted snow. The maximum temperature for the week was 62, minimum 24.

The losses among live stock throughout this section were exceedingly heavy during the storm. In some cases as high as 75 per cent of the herds were lost. In some cases practically entire herds of one to two hundred animals were lost. Many of the ranchers were nearly runied, financially. The losses were especially heavy due to the lack of feed as well as lack of shelter. The country is heavily stocked; the winter has been long and hard, and there was very little feed in the county. In some cases ranchers who had small amounts of hay were unable to move their cattle to the hay or haul the hay to the cattle.

There were no losses among the stock at this station.

Ardmore:

The snow reported for the week ending the 17 is melting very slowly. In many places there still are drifts several feet deep. The hills are just beginning to get bare, making it possible for the cattle to get a little feed. Reports are coming to town daily of heavy losses among cattle. One man is reported to have lost 400 head of three year old steers.

Mr. E. W. Sheets, beef cattle man of the Bureau of Animal Industry is visiting the station today.

Big Spring:

The weather still remains dry and unfavorable for farm work. The winter wheat in the c.c. series is beginning to head out, but is very short, averaging from ten to twelve inches high. Unless a good rain falls immediately not much of a yield of wheat will be secured this season. On account of the lack of a planting season, no planting of the spring crops has been attempted.

Maximum temperature 89, minimum 39; evaporation 2.04 inches, wind velocity 6.6 miles; precipitation .04 inches.

Dalhart:

This week has been a little less windy than previous weeks, with more signs of rain although no rain has been recorded. The weather has been more cloudy and threatening than usual. The temperature has been rather low, dropping to freezing nearly every night during the week. The trees and shrubs are late in leafing out this spring on account of the cool weather.

With no rain since November, everything is drying out badly. All the fall plowing has dried out to the depth of plowing. No attempt has been made toward preparing seed beds for planting, as the soil dries out so rapidly after it is plowed. The winter rye is looking exceedingly good for the dry weather that has prevailed. Grass is getting green on the range, and is high enough for the cattle to graze a little.

The work this week consisted of hauling clay for the roads and to fill in around the implement shed, etc., and in planting some nursery stock, and watering trees and shrubs. The well succor rods had to be pulled this week and new leathers put on. There is so much sand in the well that the leathers soon cut out. This is the second time the rods have been pulled and new leathers put on this year.

Dickinson:

Cloudy, cold weather has continued during the week with enough snow and rain to prevent field work about half of the time. Oats and barley were in the rotations and wheat varieties for the Cereal Office were seeded during the week. Plant growth is just beginning, being much later than last year, due to cold weather and to the weakened condition of the plants from the drought of last year.

Maximum temperature 51, minimum 25; precipitation .22 inches.

Garden City:

The weather during the past week has been very favorable for field work. Two light rains fell during the week, but did very little good, other than settle the dust for the time being. There was not enough rainfall to benefit the crops, as both rains totalled only .4 inches.

Soil samples were taken on the special fallow winter wheat plats.

The work here has not progressed as well as it should have, because of the acute labor shortage which hit the station as well as a good many of the surrounding farmers.

Maximum temperature 75, minimum 26; average wind velocity (8 ft. anemometer 14.5 miles per hour, (2 ft. anemometer) 11.7 miles per hour; evaporation .330 inches.

Edgeley:

The weather has been cold and cloudy all week. Owing to the wet condition of the ground seeding operations have been at a standstill almost the entire week. Seeding of wheat and oats has been completed on "Nine".

Everything has been very backward this spring. The grass is just starting and most of the fall rye has not even started. Brome grass is just starting and alfalfa has not started to grow.

Maximum temperature 57, minimum 26; precipitation for the week 1.29 inches. Precipitation occurred on the following dates; April 20, .83 in.; April 21, .20 in.; April 22, .22 in.; and April 23, .04 in. The precipitation on the date first mentioned came mostly as snow.

Havre:

Monday and Tuesday of this week were clear and warm. Field work was started on the 19, the latest date since the station was established. Wednesday and Thursday were stormy, with snow and slow rain giving a precipitation of .35 inches. Field work was again resumed on Friday afternoon. All the spring plowing on the rotations is now completed, and with a few favorable days, seeding will be completed on the rotations.

As reported before, the snow in this locality has drifted a great deal. On some of the smooth plats the plow is turning up dirt that is not entirely saturated with moisture. Plowing sod for the breaking tests was started during the week, and in some places the plow strikes dry soil.

There is great need here of warm weather. The grass has hardly started yet, and stock are thin and feed scarce. Hay of very poor quality is selling for $40 and good hay much higher.

Director Linfield of the Montana Experiment Station visited the Station on the 24.

Hays:

Generally the weather has been very favorable for plant growth. All spring small grains are up to a good stand and looking good. Winter wheat is making good growth. On some of the general fields where seeded early, the growth is very heavy - most too heavy for this time of the year. Field peas are coming up nicely. Alfalfa is up to a fair stand, and brome grass is beginning to come through the ground. The sod plats, alfalfa and brome, are beginning to make quite a little growth.

Soil moisture work was commenced during the week. Considerable trouble is being experienced with the burners in the soil ovens. Up to the present writing it seems impossible to keep the fires burning steadily. The difficulty is believed to be at least partly due to the poor grade of gasoline.

Maximum temperature 75, minimum 30; precipitation .56 inches.

Hettinger:

Completed seeding wheat on Dry Land and Flax Rotation plats on April 16, in the am., and have had the following amount of precipitation since; April 16, p.m. .35 inches; April 17, .73 inches; April 20, .28 inches, snow; April 21, .24 inches; April 22, .06 inches; April 23, .06 inches; and April 24, .11 inches -- totalling 1.81 inches.

[illegible] breaking and

Hettinger, continued:

It has been too wet to do much field work. Did some breaking and fencing the past week. There is a very small amount of seeding done in this vicinity, due to the lateness of the spring and wet weather. We started plowing on the Rotations on the 13 for corn. It has been too wet to seed the oats and barley in the Rotations, although the plats have been prepared since the 15.

Weather for the two weeks:- Average maximum temperatures 48, minimum 31; precipitation 1.81 inches.

Huntley:

Continued precipitation has kept us out of the field during the week, the ground being still too wet to work. Though the total rainfall has not been great, it has come at such times and in such amounts that the surface soil has been wet almost continuously. Tuesday and Wednesday considerable snow fell and temperatures have been generally lower than was the case last week. Winter grains, weeds, and perennial crops are making good growth.

Dr. Riley and Dr. Joseph of the Montana Experiment Station were visitors here during the week.

Maximum temperature 51, minimum 22; precipitation .74 inches.

Judith Basin:

Cool, stormy weather has prevailed throughout the week. Snow has fallen on almost every day, but the precipitation for any twenty-four period has not exceeded .31 inches. The temperature has fallen down to 28 or below every night and has not risen above 38 during the daytime except for a couple of hours on the 19. The maximum temperature recorded for the week is 42, the minimum temperature 24; and the precipitation amounts to .61 inches.

The total amount of precipitation received this year up to date is 6.40 inches, which is 3.12 inches more than the average for this period and it about two-thirds as much as was received during the entire year of 1919.

The soil contains an abundance of moisture, and the spring crops are insured a good start at least, providing the weather soon clears off sufficiently to permit field work. Even with the most ideal weather, it will be practically impossible to commence work in the fields before May 1. The weather at present, however, is far from ideal, and there are no indications of it changing for the better.

Reports regarding the condition of winter wheat in the Judith Basin in general, are very favorable. Winter wheat on the Station, however, has not fared so well. Wheat on the large commercial field has suffered from winter killing to a very noticeable extent, but a fair stand will apparently be secured. Winter wheat on the rotations has also been injured slightly, and that on the straw mulch experiment is in a very critical condition due to the wind covering the plats with a rather heavy deposit of fine soil.

Director F. B. Linfield of the Montana Experiment Station visited the Station on the 22.

Lawton:

A heavy rain which started at noon yesterday, the 24, broke the dry period we have experienced the past few weeks. A total precipitation of 2.29 inches was recorded this morning. The ground was well supplied with moisture early in the spring, but the past three weeks of low rainfall and high winds left the soil very dry. Cowpeas and sorghums planted the 15 were up the 22, but there was insufficient soil moisture to permit germination of more than a small portion of cotton planted the same date.

Alfalfa in rotation 142, on fall plowed wheat land, and sweet clover in rotation 135, on disked cowpea ground, were reseeded the 23, as the high winds of early April had buried or cut practically all the young seedlings. Sweet clover in rotation 134, on disked wheat stubble was sown the middle of March, the same day the other two plats were sown, but the stubble on this plat prevented any blowing and a very good stand was obtained.

All corn plats were harrowed the past week, and this work left the ground in excellent tilth. Mice had been injuring a large number of the plants, but since harrowing there has been no evidence of further injury.

As soon as the soil is dry enough to work we expect to re-disk most of the plats to kill what few small weeds are now up and to make a suitable seed bed. Weather conditions being favorable, variety plantings will be made within ten days.

Mandan:

Horticulture.

Mulch has been removed from nursery stock and seed beds. About five bushels of stratified plum seed has been planted.

Agronomy.

All plats were lined up ready for seeding on the 19. Rain and snow on the night of the 19 has delayed seeding all week until Saturday when wheat was seeded. The soil is in good condition to receive the seed.

Soil sampling has started on the NC wheat. In the plats that were cropped the soil is wet down to about twelve inches. The plat that was fallow in 1919 is wet down about four feet. The recent rains wet down into the spring plowed plat two or three inches more than in the fall-plowed plats.

A careftll examination of all alfalfa plats on the farm indicates that they have all been practically winter killed; this has no doubt been brought about by the dry season of 1919, and the light snows of the past winter.

Wheat varieties for the Office of Cereal Investigations was seeded on April 19.

Maximum 58, on the 17; minimum 28, on the 17; total precipitation 0.47 inches on four days.

Mr. J. C. Thysell returned from Washington on the 17.

Mandan, continued:

Arboriculture.

On account of the slowness of the frost to come out of the ground so that the heeled-in trees could be pulled, no fumigating or shipping has been done. This work will be done, however, next week.

The fields have been prepared for seeding and seed planted of ash, buffalo-berry, Russian olive, box-elder, and some of the caragana.

North Platte:

The weather during the week has been cold and wet, snow and rain having fallen nearly every day. Total precipitation for the week has been 1.75 inches, bringing the total since the 10 to approximately four inches.

Grain which has been in the ground for four weeks shows no signs of emerging.

Only one half day of field work has been accomplished during the week.

Sheridan:

No field work has been possible during the whole week. The snow which fell a week ago went off slowly and the weather has been cool and cloudy with frequent squalls of snow or rain. With good weather the fields should be in good condition again by Monday. Practically no growth has taken place with either grass or winter grain.

Maximum temperature 48, minimum temperature 22; precipitation 1.09, including snow of 17.

Scottsbluff:

A few days of favorable weather the first of the week gave us opportunity to finish preparing seed beds and to seed the small grains. Wheat, oats, barley, and sweet clover were seeded. The ground in most cases was in good tilth and a good supply of moisture was present. A number of winter wheat plats were blown out by the hard winds of last month and these were reseeded to spring wheat. Most of the wheat fields in the valley are in good shape, although considerable damage was done by the hard winds and some winter killing occurred.

A thing very noticeable in the valley this year is the large acreage being seeded to sweet clover, for pasturage. A comon practice among the farmers is to seed this in with the wheat. Several pasturing tests have been conducted here on the station and it has proven an excellent pasture crop.

Maximum temperature for the week 72, minimum 18; precipitation .65 inches.

Tucumcari:

This week has had its share of winds with no rain. It has been cloudy for a couple of days with just a sprinkle of rain, which did not lay the dust. The past week has been a little colder than last week. Some soil blowing occurred during the week, but not as much as has blown before. The Station does not blow except during the hardest winds. The surrounding farms blow with just a little wind.

Tucumcari:

Field work for the week has consisted of cultivating and listing in effort to control the blowing. Most of the station has been holding good, but the little strip in the southeast corner of the south field has been giving most of the trouble. The ornamental trees and shrubs were watered this week. Many of the trees and shrubs are leafing out, some being in bloom.

The range cattle are beginning to gain in flesh since the grass has begun to come on. The cattle in lot 1 (fed bunch) are in excellent condition. The cows will begin calving before long.

Mr. E. F. Chilcott of Woodward, and Mr. H. J. Clemmer of Dalhart visited the station this week to look after arranging the field work for the ensuing year.

Woodward:

Showers continue to come, and it may be that we will soon catch up to the average rainfall. To date we are still behind and everything needs moisture. On the 18 and 19 we had .24 inches, and today it is raining. Wheat is holding out and is ready to grow when sufficient moisture falls. Need of moisture is best evidenced by the growth of wheat on the plats. Along the alleyways wheat is much taller and much more vigorous than at the center of the plats.

Shrubbery is coming into leaf. Weeds not yet giving much concern.

Station work, cultivating, to prevent blowing, making and painting stakes for rotation and Cereal Project plats, hauling out pruned limbs from the orchard, and ornamental plantings, and ridding fruit trees of borers, is being done.

Mr. Chilcott is on a business mission to the Texas and New Mexico Stations.

Maximum for the week 82, on the 18; minimum 45, on the 22; precipitation .25 inches.

Belle Fourche:

This has been a cold, stormy week. Rain or snow has fallen every day, and, while the amount of precipitation has not been great, it has served to keep the soil too wet to permit field work.

For six successive days the variation between the maximum and minimum temperatures was eight degrees, or less. Most of the time the temperature has been near the freezing point.

It is now ten days since farmers have been able to do any work in the field. On account of the lateness of the season, many farmers are cutting down on their grain acreage.

Maximum for week 52, minimum 28; precipitation .59 inches.

NOTE.

The following instructions have been received from the Chief Clerk of the Department, under date of May 1, 1920:--

"Your attention is invited to the following citation from Paragraph 37, Fiscal Regulations:

'An annual appropriation is applicable only to expenditures properly incurred for the used of the particular fiscal year for which it is made,

and administrative officers should not anticipate the needs of a succeeding fiscal year and use unexpended balances for the purchase of supplies and materials merely in order to use up such unexpended balance.'

"By my memorandum of May 1, 1919, I called attention to the fact that the sending out of proposals late in the fiscal year causes a heavy congestion in the work of the Board of Awards, and leaves the Secretary insufficient time to consider recommendations made by the Board. At times recommendations for awards involving large amounts of money have had to be laid before the Secretary so near the end of the fiscal year that there has not been enough to give them proper consideration.

"To avoid this situation you are again requested to see that your proposals are sent out early, and that no date be fixed for the opening of proposals later than June 15, 1920, except in special cases. In each such case a convincing statement approved by the Chief of the Bureau should accompany the request for proposals.

"If you need additional copies of this memorandum, they will be furnished you upon request."